

REMARKS

Favorable consideration of the application is respectfully requested. Claims 1-43, prior to this paper, were pending in the present application. By this paper, claims 1, 10, 12, 17, 22, 24, 27, 29, 32, 35 and 38 are amended, claims 9, 16, 23, 26, 31, 34 and 40 are canceled, without prejudice, and claims 44-80 are added.

Claim Rejections - 35 U.S.C. §102

Claims 1 and 27, prior to amendment, were rejected under 35 U.S.C. §102(b) as anticipated by Jones et al. (U.S. 2003/0102469A1).

Claims 1 and 27 have been amended to include the limitation of claims 9 and 31 respectively. For example, claims 1 and 27 now read:

“...forming epitaxial silicon directly on the hemi-spherical grain silicon, wherein the epitaxial silicon forms an oblong silicon shape that has more thickness in a vertical direction that graduates down to less thickness in a horizontal direction.”

Clearly, and as indicated by the Examiner, Jones et al. does not teach or suggest forming epitaxial silicon having oblong silicon shape that has more thickness in a vertical direction that graduates down to less thickness in a horizontal direction, a limitation feature of the present invention added to the base claims 1 and 27. Therefore, by amendment, the rejection of claims 1 and 27, under 35 U.S.C. §102(b) as anticipated by Jones et al. (U.S. 2003/0102469A1), is overcome.

Claim Rejections - 35 U.S.C. §103

Claims 1-6, 10, 13, 17, 19, 20, 27, 30, 32, 35, 36, 38 and 39, prior to this paper, were rejected under 35 U.S.C. §103(a) as being unpatentable over Han et al. (U.S. Patent 5,405,801) in view of JP2002222871A1.

Base claims 1, 10, 17, 27, 32, and 35 have been amended to include the limitation of claims 9, 16, 23, 31, 34 and 40, respectively. For example, as indicated above claims 1 and 27 now read:

“...forming epitaxial silicon directly on the hemi-spherical grain silicon,
wherein the epitaxial silicon forms an oblong silicon shape that has more thickness in a vertical direction that graduates down to less thickness in a horizontal direction.”

Base claims 10, 17, 32 and 35 have been amended in like manner.

Clearly, the combination of Han et al. and JP2002222871A1 does not teach or suggest forming epitaxial silicon having oblong silicon shape that has more thickness in a vertical direction that graduates down to less thickness in a horizontal direction, a limitation feature of the present invention, added to the base claims 1, 10, 17, 27, 32, and 35. Therefore, by amendment to base claims 1, 10, 17, 27, 32, and 35, the rejection of claims 1-6, 10, 13, 17, 19, 20, 27, 30, 32, 35, 36, 38 and 39, under 35 U.S.C. §103(a) as being unpatentable over Han et al. (U.S. Patent 5,405,801) in view of JP2002222871A1, is overcome.

Claims 11, 12, 18, 24, 25, 28, 29, 33 and 37, prior to this paper, were rejected under 35 U.S.C. §103(a) as being unpatentable over Han et al. (U.S. Patent 5,405,801) in view of JP2002222871A1 and further in view of Wu et al. (U.S. 20020064956).

Base claims 10, 17, 24, 27, 32, and 35 have been amended to include the limitation of claims 16, 23, 31, 34 and 40, respectively. For example, claims 10 and 27 now read:

“...forming epitaxial silicon directly on the hemi-spherical grain silicon, wherein the epitaxial silicon forms an oblong silicon shape that has more thickness in a vertical direction that graduates down to less thickness in a horizontal direction.”

Base claims 17, 24, 32 and 35 have been amended in like manner.

Clearly, the combination of Han et al., JP2002222871A1 and Wu et al. does not teach or suggest forming epitaxial silicon having oblong silicon shape that has more thickness in a vertical direction that graduates down to less thickness in a horizontal direction, a limitation feature of the present invention, added to the base claims 10, 17, 24, 27, 32, and 35. Therefore, by amendment to base claims 10, 17, 24, 27, 32, and 35, the rejection of claims 1-11, 12, 18, 24, 25, 28, 29, 33 and 37, under 35 U.S.C. §103(a) as being unpatentable over Han et al. (U.S. Patent 5,405,801), in view of JP2002222871A1 and further in view of Wu et al. (U.S. 20020064956), is overcome.

Claim Objections

Claim 38, prior to this paper, was objected to due to an informality.

Claim 38 has been amended to be dependent on claim 37, thus providing antecedent basis for the term “the amorphous silicon layer.”

Therefore, by amendment, the objection of claim 38 is overcome.

Though not objected to by the Examiner, claims 12 and 29 have been amended in like manner to provide antecedent basis for the term “the amorphous silicon layer.”

Allowable Subject Matter

The Examiner indicated that claims 41-43 are allowed and that claims 7, 8, 9, 14, 15, 16, 21, 22, 23, 26, 31, 34 and 34 are objected to as being dependent upon a rejected base claim.

As indicated in response above to the Examiner's rejections U.S.C. §102(e) and §103(a), base claims 1, 10, 17, 24, 27, 32, and 35 have been amended include the limitation of claims 9, 16, 23, 26, 31, 34 and 40, respectively. Therefore, it is deemed claims 1, 10, 17, 24, 27, 32, and 35 and their respective dependent claims are patentable over the cited art.

Claims 44-66 have been added that include allowable subject matter indicated by the Examiner. For example, base claim 44 is basically a rewrite of originally filed claim 1 with the inclusion of the limitations of originally filed dependent claim 7. The remaining added base claims 52, 58 and 64 follow the same pattern.

Additional Notes

New claims 67-80 present broader claims of the present invention that the applicant has a right to claim. The new claims are supported by the originally filed application (see, FIGS. 5, 6, 8 and 9). Therefore, no new matter has been added.

CONCLUSION

Applicant submits that the application is in condition for allowance. Such allowance at an early date is respectfully requested.

If the Examiner feels that a conference will expedite the prosecution of this case, the Examiner is cordially invited to call the undersigned.

Respectfully submitted,

A handwritten signature in black ink, reading "David J. Paul". The signature is written in a cursive style with a large initial "D" and a long, sweeping underline.

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